James King February 10, 2014

Integer Factorization / SAT Solving Coursework

Factors Found

#	Product	Result			Solver	Time
1	14,843,833	**UNSAT**			minisat	0.343s
2	549,221,821	14,843,833	x	37	minisat	1.734s
3	961,748,941	**UNSAT**			minisat	6.328s
4	57,396,757,499	271,109	x	211,711	minisat	69.125s
5	1,047,090,939,649	1,079,621	x	969,869	minisat	163.218s
6	10,685,266,071,481	15,467,041	x	690,841	minisat	160.015s
7-12					minisat	TIMEOUT (>250s)

SAT Solver Implementation

I had a quick try at implementing a solver, although didn't have much time to optimise it. It's a recursive DPLL solver using MOMS as a heuristic for splitting, implemented in C♯.

`https://github.com/Metapyziks/FactSat`

Because the current approach is pretty inefficient (although gives correct solutions) I'll probably attempt a rewrite when I have the time.